

# CLAIMS

What is claimed is:

- 5 1. A method of optical power calibration for calibrating a writing optical power of an optical storage carrier player, the optical storage carrier player comprising an access device for writing data onto an optical storage carrier, the optical storage  
10 carrier comprising a central portion, a data storage area located outside the central portion, and an outer power calibration area located outside the data storage area, the method comprising steps of:  
    (a) the access device performing an optical power  
15 calibration in the outer power calibration area to determine an optimized optical power; and  
    (b) the access device writing the data onto the data storage area by applying the optimized optical power.  
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2. The method of optical power calibration of claim 1 wherein the optical storage carrier further comprises a last possible lead-out area located near an outer edge of the optical storage carrier for  
25 recording ending information, and the outer power calibration area is located within the last possible lead-out area.
3. The method of optical power calibration of claim 2 wherein the last possible lead-out area comprises a predetermined length separation disposed between a starting point of the outer power calibration area from a starting point of the last possible lead-out  
30 area.
- 35 4. The method of optical power calibration of claim 3 wherein the predetermined length separation corresponds to at least 1 minute period at a normal

playing speed.

5. The method of optical power calibration of claim 1 wherein a length of the outer power calibration area is corresponding to at least 20 second period at a normal playing speed.

6. The method of optical power calibration of claim 1 wherein the outer power calibration area further comprises a test area for allowing a test data written thereon during the power calibration, and a count area for recording a number count of power calibrations already performed on the outer power calibration area.

7. The method of optical power calibration of claim 1 wherein the optical storage carrier further comprises an inner power calibration area located close to the central portion, and the inner power calibration area comprises a count area for recording a number count of the optical power calibrations already performed within the inner power calibration area, the method further comprises step before the step (a):

performing the optical power calibration in the inner power calibration area if the number count is less than a predetermined number of power calibrations capable of being performed in the inner power calibration area, and then skipping the step (a).

8. An optical storage carrier player for accessing an optical storage carrier, the optical storage carrier comprising a central portion, a data storage area located outside the central portion, and an outer power calibration area located outside the data storage area, the optical storage carrier player comprising:

an access device for writing data on an optical storage carrier; and  
a control apparatus for controlling the access device to perform an optical power calibration in the outer power calibration area to determine an optimized optical power.

9. The optical storage carrier player of claim 8 wherein the optical storage carrier further comprises a last possible lead-out area located near an outer edge of the optical storage carrier for recording ending information, and the outer power calibration area is located within the last possible lead-out area.

10. The optical storage carrier player of claim 9 wherein a predetermined length separation is disposed between a starting point of the outer power calibration area and a starting point of the last possible lead-out area.

11. The optical storage carrier player of claim 10 wherein the predetermined length separation corresponds to at least 1 minute period at a normal playing speed.

12. The optical storage carrier player of claim 8 wherein a length of the outer power calibration area corresponds to at least 20 second period at a normal playing speed.

13. The optical storage carrier player of claim 8 wherein the outer power calibration area further comprises a test area for allowing a test data written thereon during the power calibration and a count area for recording a number count of the power calibration already performed on the outer power calibration area.

14. The optical storage carrier player of claim 8 wherein the optical storage carrier further comprises an inner power calibration area located close to the central portion, and the inner power calibration area comprises a count area for recoding a number count of the optical power calibrations already performed in the inner calibration area; when the number count is less than a predetermined number, the access device performs the optical power calibration in the inner power calibration area instead of the outer power calibration area.

15. A optical storage carrier comprising:  
a central portion;  
a data storage area located close to the central portion for writing data; and  
an outer power calibration area located outside the data storage area for performing an optical power calibration to determine an optimized optical power.

16. The optical storage carrier of claim 15 further comprises a last possible lead-out area located near the outer edge of the optical storage carrier for recording ending information, and the outer power calibration area is located within the last possible lead-out area.

17. The optical storage carrier of claim 16 wherein a predetermined length separation disposed between a starting point of the outer power calibration area from a starting point of the last possible lead-out area.

18. The optical storage carrier of claim 17 wherein the predetermined length separation corresponds to at least 1 minute period at a normal playing speed.

19. The optical storage carrier of claim 15 wherein a length of the outer power calibration area corresponds to at least 20 seconds period at a normal playing speed.

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20. The optical storage carrier of claim 15 wherein the outer power calibration area comprises a test area for allowing a test data written thereon during the power calibration, and a count area for recording a number count of power calibrations already performed on the outer power calibration area.

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21. The optical storage carrier of claim 15 wherein the optical storage carrier further comprises an inner power calibration area located closer to the central portion than the data storage area.

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